

B. BIYEVSKIY, K.K.; BELIKOV, V.M.; TIEMONOVA, N.A.

Amino acids. Report No.1: Synthesis of DL-threonine and
DL- α -aminobutyric acid based on the reactions of nitro-
acetic ester condensation. Izv. AN SSSR Ser. Khim. no.1:
89-95 '65. (MIRA 18:2)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

BABIYEVSKIY, K.K.; BELIKOV, V.M.; TIKHONOVA, N.A.

Preparation of α -nitroacrylic ester. Dokl. AN SSSR 160 no.1:
103-105 Ja '65. (MIRA 18:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted
July 1, 1964.

BABIYEVSKIY, K.K.; BELIKOV, V.M.; TIKHONOVA, N.A.

Reduction of esters of substituted α -nitroacrylic acids on a skeletal nickel catalyst. Izv. AN SSSR. Ser. khim. no.4:750-751 '65.
(MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

BABIYEVSKIY, K.K.; BELIKOV, V.M.; BELOKON', Yu.N.

Amino acids. Report No.2: Synthesis of D L-proline from nitroacetic ester derivatives. Izv. AN SSSR. Ser. khim. no.7:1226-1229 '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NIKOLENKO, L.N.; BABIYEVSKIY, K.K.

Preparation of azo dyes insoluble in water. Zhur.prikl.khim. 33
no.10:2373-2374 0 '60. (MIRA 14:5)

(Azo dyes)

BABIYEVSKIY, M.S.; BOCHAROV, V.V.

Experience in the operation of the motorship "Grigori
Ordzhonikidze." Biul. tekhn.-ekon. inform. Tekh. upr. Min. mor.
flota 7 no.4:7-12 '62. (MIRA 16:4)

1. Kapitan teplokhoda "Grigoriy Ordzhonikidze" for Babiyevskiy).
2. Starshiy mekhanik teplokhoda "Grigoriy Ordzhonikidze" (for
Bocharov).

(Merchant marine--Cost of operation)

(Merchant ships--Passenger accomodation)

BABIZHAYEV, Yu.G.

Using abrasive sand-jet perforation for the exclusion of bottom waters in fields of the Oil Field Administration of the Zhirnovsk Petroleum Trust. Nefteprom. delo no.3:24-27 '65.

(MIRA 18:10)

1. Zhirnovskoye neftepromyslovoye upravleniye.

L 60313-65

ACCESSION NR: AP5021085

CZ/0049/6A/000/012/0897/0903

17

AUTHOR: Murar, Jozef (Murar, Ya.)(Kosice); Sova, Otto (Kosice); Babjak, Miron (Bab'yak, Mikhail)(Kosice); Masiar, Pavol (Masiar, Pavel)(Docent, Doctor, Candidate of sciences)(Kosice)

TITLE: Contribution to the study of spectra of blood sera of some mammals by means of paper electrophoresis

SOURCE: Biologia, no. 12, 1964, 897-903

TOPIC TAGS: blood, blood serum, experiment animal, protein, electrophoresis

Abstract: The authors performed electrophoretic analysis of the sera of man, monkey, horse, cattle, sheep, pig, and rat. The results of their experiments agree with the information available at present. Basic data covering the composition of the serum of the monkey *Macaca Rhesus* were recorded. The possibility of using the analysis of the proteins in the serum in the study of basic physiological and pathophysiological conditions of domestic animals is discussed. Orig. art. has 1 figure and 2 tables.

Card 1/2

L 60313-65

ACCESSION NR: AP5021085

ASSOCIATION: Katedra biochemie Lekarskej fakulty Univerzity P. J. Safarika,
Kosice (Department of Biochemistry, Medical Faculty of University of P. J.
Safarik)

SUBMITTED: 09Nov63

ENCL: 00

SUB CODE: 1S

NO REF SOV: 000

OTHER: 018

JPRS

Card 2/2 *ljo*

104708.39001-1
EPSTEIN, Berthold, Prof. MUDr.; BABJUK, Jaroslav, PhMr.; NEMCOVA, Alice, MUDr.

Sudden poisoning in children. Cesk. pediat. 13 no.1:1-6 5 Jan 58.

1. Detske oddeleni nemocnice na Bulovce, prednosta prof. Dr. B. Epstein.
Ustredni laborator nemocnice na Bulovce, prednosta Dr. K. Masek. B. E.,
Praha 8, Bulovka.
(POISONING, in inf. & child
(Cz))

STANINEC, M.; GRANTOVA, H.; BABJUK, J.

Blood proteins in aphthous stomatitis. Cesk. pediat. 14 no.8:721-724 Aug 59.

1. Infekcni klinika na Bulovce, prednosta prof. dr. J. prochazka
Centralni laboratore nemocnice na Bulovce, predn. prim. dr. K. Masek.
(STOMATITIS, blood) (BLOOD PROTEINS)

BABKA, Piotr

Hot water cooling of smelting furnaces, construction and
equipment of barrel boilers. Problemy projekt 10 no.4:97-107
Ap '62.

1. Biprostal, Krakow.

BABKA, Piotr

Calculations of the gravity circulation in evaporative cooling
metallurgic furnaces. Problemy proj but maszyn 10 no.6:161-174.
Ja '62.

1. Biprostal, Krakow.

BABKA, Piotr

Application of the dowtherm process for the cooling of metallurgical furnaces. Problemy proj hut maszyn 10 no.8:237-241 Ag '62.

1. Biprostal, Krakow.

BABKA, Piotr

Application of foamed concrete to insulations of tube conductors
of electric networks. Problemy proj hut maszyn 10 no.11:341-345
N '62.

1. Biprostal, Krakow.

BABKA, Piotr

Planning pneumatic transportation of loose materials to distant
places. Problemy proj hut maszyn 12 no.9:257-265 S '64

1. Biprostal, Krakow.

BABKA, Piotr, mgr inz.

Evaporative cooling of blast furnaces. Hutnik P 29 no.9:329-
335 S '62.

1. Biprostal, Krakow.

BABKA, Piotr, mgr inz.

Evaporation cooling of metallurgic furnaces. Gosp paliw 11
no.2:56-59 F '63.

BABKA , Piotr, mgr inz.

Possibilities of utilizing the waste heat of blast furnace
slags. Hutnik P 30 no. 11: 355-359 N '63.

BABKA, Piotr; SIERPOWSKI, Andrzej

Possibilities of real utilization of waste heat in the iron
and steel industry. Problemy proj hut maszyn 11 no. 5: 138-
143 My '63.

1. Biprostal, Krakow.

BABKA, Piotr, mgr inz.

Foamed concrete insulation of heating pipelines. Gaz woda
techn sanit 37 no.6:193-196 Je '63.

1. Biprostal, Krakow.

BABKA, Piotr

Design of the heat recovery of waste gases from open-hearth furnaces.
Problemy proj hut maszyn 12 no.7:205-217 J1 '64.

1. Studies and Planning Office of the Foundry Industry, Krakow.

BABKA, Piotr, mgr inż.

The first evaporator-based cooling installation in Poland.
Gosp paliw 13 no.4:114-116 Ap '65.

1. School of Mining and Metallurgy, Krakow.

BABKA, V.; VINS, L.

Special high-speed wrenches. Stroj vyr 9 no.12:624-625 '61.

1. Tona, n.p., Pecky (for Babka) 2. Zavody 9. kvetna, n.p., Praha
(for Vins)

BABKEVICH, S.P., inzh.

The DU-10 fermentation unit. Mashinostroyeniye no. 4: 100-103
Jl-Ag '64. (MIRA 17:10)

GROTTE, M.G. [Hrotte, M.H.], nauchnyy sotrudnik; BABEVICH, Yu.S.,
nauchnyy sotrudnik

Mounting the ONK spraying and dusting machine on DT-14 tractors.
Mekh. sil'. hosp. 11 no.6:13-14 Je '60. (MIRA 13:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii
i elektrifikatsii sel'skogo khozyaystva.

(Spraying and dusting equipment)

RUSAKOVA, A., nauchnyy sotrudnik; KORENEVA, N., nauchnyy sotrudnik;
SOKOLOV, G., inzh. (Kuybyshev); TAKOVITSKIY, A., izobretatel'
(Moskva); BABKIN, A., master (Nizhniy Tagil)

Suggested, created, introduced. Izobr.i rats. no.5:40-3 of cover
My '62. (MIRA 15:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut tary i upakovki,
Kaluga (for Rusakova, Koreneva).
(Technological innovations)

BABKIN, A.G.; TROFIMOV, G.V.; GOROSHCHENKO, Ya.G.

Manufacturing laboratory equipment from polythene. Zav.lab. 26
no.3:380-381 '60. (MIRA 13:6)

1. Kol'skiy filial Akademii nauk SSSR.
(Laboratories--Equipment and supplies)
(Ethylene)

GOROSHCHENKO, Ya.G.; BELKOSKOV, V.I.; BABKIN, A.G.

Distribution of rare earth elements between the solid and the
liquid phase in the course of the crystallization of double sulfates.

Zhur.prikl.khim. 33 no.4:803-808 Ap '60. (MIRA 13:9)

(Rare earths) (Sulfates) (Crystallization)

L 21921-66 EWA(h)/EWT(d)/EWT(1) IJP(c) GW/JT

ACC NR: AP6014630

SOURCE CODE: UR/0032/65/031/010/1280/1281

AUTHOR: Babkin, A. G.; Kravchenko-Berezhnoy, R. A.; Medvedev, N. Yu.

ORG: Kola Branch im. S. M. Kirov, AN SSSR (Kol'skiy filial AN SSSR)

TITLE: Work of the mathematics group at the Kola Branch of the Academy of Sciences USSR
16. 44. 55

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1280-1281

TOPIC TAGS: scientific organization, statistics, electronic computer, magnetic field, charged particle, particle motion, mathematic personnel, crystallography, seismology, geophysics, analytic chemistry

ABSTRACT: In 1963 a mathematics group was organized at the Kola Affiliate of the Academy of Sciences USSR. Several large scientific research institutes are found at the Affiliate, hence, the mathematics group is called upon to solve quite different topical tasks. Since the investigations, as a rule, are associated with experiment, the main means of solving a majority of the problems are the methods of mathematical statistics and, particularly, the theory of experiment planning. In the first stage the work of the group concerned the exposition of tasks, their arrangement and the specialization of mathematicians according to the types of tasks. The Minsk-1 electronic computer was used to solve a series of tasks on the motion of a charged particle in magnetic fields, the task of exploratory geophysics, seismology,

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ACC NR: AP6014630

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and crystallography. The application of mathematical apparatus contribute to the further expansion of the theoretical investigations in these regions. The most important task of the group is the introduction into practice of the work of the laboratories of modern methods in setting up experiments and processing the experimental data, as well as the application of mathematical methods in the field of principally descriptive studies. In January-February 1965, associates of the mathematics group gave lectures on the basis of the theory of probability and mathematic statistics. The purpose of these lectures to prepare attendees of the seminar on the mathematical theory of experiment planning conducted in March-April. A group of specialists (Yu. V. Granovskiy, N.A. Chernova -- Moscow State University and others) headed by Doctor of Technical Sciences V. V. Nalimov, Chairman of the Chemistry Section, Council on Cybernetics, Academy of Sciences USSR, participated in the seminar. A number of lectures on the mathematical theory of experiments was read at the specially composed program. More than 100 attendees (chemical engineers, analytical chemists, experimental physicists and physical chemists, geologists, and others) were acquainted in detail with the Box-Wilson method, factorial experiment, adaptive optimalization as well as with applied methods of the theory of random functions and with the problems of the mechanization of the information service. The program of the seminar also provided for consultation on practical problems associated with employment of the methods of experiment planning.

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1. 21921-66

ACC NR: AP6014630

There is experience in the application of these methods at the Kola Affiliate of the Academy of Sciences USSR. Efforts on the optimalization of the extractive separation of niobium and tantalum were reported at the First All-Union Conference on Experiment Planning. With the aid of the Box-Wilson method a study on the separation of certain rare elements and their separation by extraction from accompanying impurities, recovery of aluminum in solution during sulfate stripping of nephelin and beneficiation of ores by flotation, gravitation and other methods was made. A number of tasks is presented which are connected with the application of methods of dispersive and regressive analysis in analytical chemistry and geology, of applied methods in the theory of random functions and adaptive optimalization in roentgenospectral analysis. The seminar also contributed to a wider use of modern methods of documentation. The invitation of specialists for reading of more developed lectures is provided according to the measure of expansion of the research efforts in the use of the methods of the theory of experiment planning. [JPRS]

SUB CODE: 12, 20, 08, 09, 07 / SUBM DATE: none

Cord 3/3 not

BABKIN, A.F., aspirant

Serological changes in the experimental listeriosis of sheep. Veterinariia
41 no.3:18-20 Mr '64. (MIRA 18:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut eksperimental'noy
veterinari.ii.

BABKIN, A.F.

Use of the indirect hemagglutination reaction and hemolysis
in the diagnosis of listeriosis. Zhur. mikrobiol., epid. i
immun. 42 no.1:138-143 Ja '65.

(MIRA 18:6)

1. Ukrainskiy institut eksperimental'noy veterinarii.

5 2200 1043, 1087, 1208

S/080/61/034/001/006/020
A057/A129

AUTHORS: Goroshchenko, Ya.G., Babkin, A.G., Mayorov, V.G., Fedyushkina, S.A.

TITLE: Continuous Separation of Niobium and Tantalum by Extraction With Cyclohexanone

PERIODICAL: Zhurnal Prikladnoy Khimii, 1961, Vol. 34, No. 1, pp. 43-49

TEXT: Based on previous investigations [Ref.1: Ya.G. Goroshchenko, M.I. Andreyeva, A.G. Babkin, ZhPKh, 32,9,1904-1913 (1959)] on distribution of niobium, tantalum and hydrofluoric acid between diluted sulfuric acid and cyclohexanone, a flow-sheet for the continuous extraction of niobium from tantalum has been developed. The method ensures the treatment of residual solutions obtained by conventional processing of titanium ores. In the present investigations these solutions contained: H_2SO_4 340-400 g/l, $(NH_4)_2SO_4$ 180-200 g/l, Nb_2O_5 7-15 g/l, Ta_2O_5 1.5 g/l, TiO_2 3-4 g/l. The main process is a consecutive cyclohexanone extraction with tantalum extracted first, because for the extraction of niobium a considerably higher concentration of sulfuric acid than for tantalum is necessary. The separation occurs continuously in coun-
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A057/A129

X

Continuous Separation of Niobium and Tantalum by Extraction With Cyclohexanone

terflow-extraction columns (see Fig.1) with cyclohexanone saturated with hydrofluoric acid. In column No.1 tantalum is extracted from the aqueous H_2SO_4 phase, in column No.2 from the tantalum-bearing cyclohexanone phase niobium impurities are washed out, in column No.3 tantalum is re-extracted with ammonium fluoride solution, in No.4 niobium is extracted from the aqueous H_2SO_4 phase and in No.5 niobium is re-extracted with ammonium fluoride solution, in No.6 cyclohexanone from the tantalum circuit is saturated by hydrofluoric acid from the spent sulfuric acid solution and recirculated, while in column No.7 cyclohexanone from the niobium circuit is saturated with hydrofluoric acid. Transition of tantalum and niobium salts from the aqueous into the organic phase eliminates titanium, iron and rare-earth metal impurities. The scope of the present work was to determine the design of the columns and the optimum conditions for extraction. The experiments were carried out in a non-packed laboratory column. After equilibrium conditions were reached, periodically (in 10-15 min intervals) samples of the emulsion were taken out along the column (from top to the bottom). Thus the fractionating capacity was determined and from the experimental data combined diagrams were plotted:

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Continuous Separation of Niobium and Tantalum by Extraction With Cyclohexanone

left - extraction as function of the height of the column, right - extraction as function of the number of equilibrium stages (Fig.3-6). From these diagrams the height of the column equivalent to one equilibrium stage and the height required for the extraction was determined. Corresponding to the obtained experimental results in a table (see table) data related to the design of extraction columns are given. In order to avoid linear or spiral flow of the liquid, it is recommended to design the mixing zone in the form of a "squirell cage". The described flow-sheet permits the production of tantalum pentoxide to be carried out containing no more than: TiO_2 0.15%, SiO_2 1.0%, Fe_2O_3 0.25%, SO_3 0.40%, and niobium pentoxide containing no more than: TiO_2 0.30%, SiO_2 0.55%, Fe_2O_3 0.25%, SO_3 0.15%. The content of Nb in Ta and of Ta in Nb can be regulated by changing the extraction conditions. The presented method is also suggested for extraction of Nb-Ta concentrates and other related raw materials. In presence of chlorine ions and iron, the latter must be eliminated to avoid extraction with cyclohexanone. There are 6 figures, 1 table, and 4 Soviet references.

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L 10697-63

EWB(q)/EWT(m)/BDS--AFFTC/ASD---JD

ACCESSION NR: AP3002536

S/0075/63/018/006/0739/0742

AUTHOR: Goroshchenko, Ya. G.; Volkova, M. I.; Babkin, A. G.; Pyryayev, N. K. 56

TITLE: Quantitative gravimetric determination of niobium and tantalum after their extraction with cyclohexane 27 27

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 6, 1963, 739-742

TOPIC TAGS: tantalum gravimetric determination, niobium gravimetric determination, cyclohexane

ABSTRACT: A relatively rapid gravimetric method for the determination of niobium and tantalum has been developed. The method is based on the extraction of these metals with cyclohexane from an aqueous solution containing 400 g/l of H sub 2 SO sub 4, 200 g/l of (NH sub 4) sub 2 SO sub 4 and 100 g/l of HF. Cyclohexane is a specific extractant for niobium and tantalum and especially when ammonium sulfate is added to the solution. An aqueous solution containing about 100 g/l of H sub 2 SO sub 4 and 50 g/l (NH sub 4) sub 2 SO sub 4 will selectively extract niobium, thus gives the possibility of separating niobium from tantalum after their initial extraction with cyclohexane. According to the spectral analyses the elements Al, Y, Zr, Hf, Pb, Th, V, As, Bi, Cr, Mo, W, U, Mn sup +2 and Fe in fair amounts are

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not extracted with cyclohexane and therefore do not interfere. Ti, Sn and Sb are partially extracted with cyclohexane. MnO sub 4 sup - extracts almost completely with cyclohexane and therefore it must be converted to the reduced state Mn sup +2 by addition of Na sub 2 S sub 2 O sub 4 . 2H sub 2 O to render it inactive. The P sub 2 O sub 5 in quantities larger than 50 mg also interferes. All experiments were checked against standard solutions. Orig. art. has: 3 tables.

ASSOCIATION: Kol'skiy filial AN SSSR, Apatity (Kola Branch, Academy of Sciences SSSR)

SUBMITTED: 03Aug62

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 004

OTHER: 001

ja/

Card 2/2

BABKIN, A.G.; KRAVCHENKO-BEREZHNOY, R.A.; MEDVEDEV, M.Yu.

Work of the mathematical group at the Kola Branch of the Academy
of Sciences of the U.S.S.R. Zav.lab. 31 no.10:1280-1281 '65.

(MIRA 19:1)

1. Kol'skiy filial imeni Kirova AN SSSR.

BABKIN, A.K.

12 5
4E4j
Phosphorites in the upper Proterozoic deposits of the Western Near-Baikal region. V. D. Mats, O. P. Egorova, and A. K. Babkin (Dokl. Akad. Nauk S.S.S.R., 1970, 204-6 (1970)). The geology of the deposits is described and typical analyses are presented. Essentially 2 types of phosphorites (I) are found, one cont. (av.) 14.20, the other 41.15% P_2O_5 . Traces of V are present. The almost complete absence of F, Ti, and U is explained by the genesis of these I, which presumably are not of org. origin, but at all events have reacted during recent geol. times with the $CaCO_3$ in which they are imbedded. Werner Jacobson

SUKARNO, I., zhurnalist; BABKIN, A.N. [translator]; YEGOROV, L.I.
[translator]

[Indonesia in brief] Indoneziia; kratkii ocherk. Moskva.
Izd-vo inostr.lit-ry, 1956. 135 p. Translated from the
English. (MIRA 12:11)

(Indonesia)

MATVEYEV, V.Ye.; FUZYNYA, I.Ye.; VOLIKOV, V.A.; ~~BARKIN, A.P.~~; CHERNYSHEV,
V.I., redaktor; VMIRINA, G.P., tekhnicheskij redaktor

[Standardization of the consumption of materials and spare parts in
railroad transportation] Normirovanie raskhoda materialov i zapasnykh
chastei na shелеznodorozhnom transporte. Moskva, Gos. transp. zhel-
dor. izd-vo 1953. 326 p. (MLRA 10:2)
(Railroads--Maintenance and repair)

DABKIN, A.P.

TYVANCHUK, D.P., inzhener; MULYUKIN, F.P., retsenzent; TVERSKOY, K.N.,
retsenzent; ~~DABKIN, A.P.~~, redaktor; KRYSHAL', L.I., redaktor
KHITROV, P., tekhnicheskiy redaktor

[Planning major railroad overhauling] Planirovanie kapital'nogo
remonta na zheleznodorozhnom transporte. Moskva, Gos. transp.
zhel-dor. izd-vo, 1951. 122 p. [Microfilm] (MLRA 10:2)
(Railroads--Maintenance and repair)

MATVEYEV, Vasil'y Yevgrafovich; PUZYNYA, Ivan Yevstaf'yevich; VOLIKOV, Viktor Aleksandrovich; BABKIN, Aleksandr Rodionovich; CHERNYSHEV, V.I., redaktor; VERINA, G.P., ~~tekhnicheskij~~ redaktor

[Standardizing expenditures for materials and spare parts in railroad transportation] Normirovanie raskhoda materialov i zapasnykh chastei na zheleznodorozhnom transporte. Izd. 2-oe, perer. i dop. Moskva, Gos.transp. zhel-dor. izd-vo, 1957. 463 p. (MLRA 10:9)
(Railroads--Finance)

CHERNYSHEV, Petr Georgiyevich; FILIMONOV, Semen Yevgen'yevich; RUSANOV, Nikolay Vasil'yevich [deceased]; BABKIN, Aleksandr Rodionovich; KRISHTAL', L.I., red.; BOBROVA, Ye.N., tekhn.red.

[Estimates, bookkeeping, and technical records in construction and track management] Smety, uchet i tekhnicheskaya otchetnost' v stroitel'stve i putevom khoziaistve. Pod obshchei red. P.G. Chernysheva. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 235 p.
(MIRA 12:9)

(Railroads--Accounts, bookkeeping, etc.)

BABKIN A.R.

AL'BREKHT, Vladimir Georgiyevich, prof.; LIDERS, Georgiy Vladimirovich, dotsent; NIKIFOROV, Pavel Aleksandrovich, prof. [deceased]; CHLENOV, Mikhail Timofeyevich, kand.tekhn.nauk; CHERNYSHEV, Mikhail Andreyevich, kand.tekhn.nauk; FRISHMAN, M.A., prof., retsenzent; ANDREYCHENKO, A.V., inzh., retsenzent; BABKIN, A.R., inzh., retsenzent; BEZRUCHKO, V.S., inzh., retsenzent; ZHEREBIN, M.I., inzh., retsenzent; MEL'NIK, D.M., inzh., retsenzent; MURAV'YEV, I.V., inzh., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; PASHININ, S.A., inzh., retsenzent; POTOTSKIY, G.I., inzh., retsenzent, red.; RAK, S.M., inzh., retsenzent; TYUTYUNNIK, F.R., inzh., retsenzent; ULYUYEV, D.I., inzh., retsenzent; SHEPELEV, V.N., inzh., retsenzent; BOBROVA, Ye.N., tekhn.red.

[Track work] Putevye khoziaistvo. Pod red. M.A.Chernysheva. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 435 p. (MIRA 12:12)

1. Kafedra "Put' i putevoye khozyaystvo" Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Frishman). (Railroads--Track)

ANTIPOV, Ivan Antipovich; BABKIN, Aleksandr Rodionovich; SOROKA,
Mikhail Grigor'yevich; PESKOVA, L.N., red.

[Economics, organization and planning of railroad track
economy] Ekonomika, organizatsiia i planirovanie putevogo
khoziaistva. Moskva, Transport, 1964. 226 p.

(MIRA 17:9)

CHERNIK, L.N.; BABKIN, A.S.

Metasomatic granites in eastern Transbaikalia and some characteristics of their genesis. Zap.Vses.min.ob-va. 92 no.2:159-172 '63.
(MIRA 16:5)

1. Leningradskiy gornyy institut.
(Transbaikalia--Metasomatism (Geology))
(Transbaikalia--Granite)

BABKIN, A.S.

Phosphorus ores of the Krupchinskoye deposit. Trudy ZabNII
no.1:62-63 '62. (MIRA 18:2)

BABETIN, A.S.; CHETVERIKOV, Ye.N.

Present-day requirements for an evaluation of tantalum,
beryllium, and niobium deposits. Razved. i okh. nedr 31
no 1:10-14 Ja '65. (MIRA 18:3)

BARKIN, B. H.

*Rubber abstr.
V-31 Dec 1953
Synthetic Rubbers
and Like Products*

5084. Copolymerization reaction of ~~dimethylol~~ with glycols. Y. A. STRELNIKOV, I. A. GRUBOVA, I. P. LIDSEY, V. V. KORSHAK, B. M. HANSEN, and L. A. DATSKOVICH. *Khim. i. Fiz. Vysokomol. Soedinenii. Doklady 7-oi Konf. Vysokomol. Soedineniiam* 1952, 69-67; *Chem. Abstr.* 1953, 47, 7820. The copolymerization of diphenylmethylene diisocyanate with 1, 4-butanediol was investigated and an expression deduced for the mol. wt. of the product. The highest mol. wt. is attained near the equimolecular proportion of monomers. Addition of an alcohol or piperidine causes a severe drop in mol. wt. The viscosity of the mixture becomes constant after about 10 hrs. at 130° to 175° C. Tertiary amines catalyze the reaction, and the highest viscosities are produced in xylene or chlorobenzene solution. The product is a solid of mol. wt. up to 34,000, melting at about 183° and decomposing above 216° C. 353MAN12

(6)

*APF
7-27-54*

ACCESSION NR: AT4035460

S/2546/63/000/127/0038/0066

AUTHOR: Ped', D. A.; Babkin, A. V.

TITLE: Forecasting of an air temperature anomaly for July-August for the European SSSR

SOURCE: Moscow. Tsentral'ny'y institut prognozov. Trudy*, no. 127, 1963.
Voprosy* sezonny*kh prognozov pogody* (Seasonal weather forecasting), 38-66

TOPIC TAGS: meteorology, weather forecasting, long-range weather forecasting, air temperature, air temperature anomaly

ABSTRACT: A method has been proposed for delimiting regions of an active thermal state in the northern hemisphere and their influence on the formation of the seasonal air temperature anomaly in the European SSSR. The statistical method used is applicable only in forecasting the air temperature anomaly for the second half of summer (July-August). The investigation was based on data for 1901-1950. The method used was determination of active regions of thermal influence on the formation of air temperature anomalies in the European SSSR in synchronous and asynchronous periods. Only five stations were used in determination of these regions. The synchronous and asynchronous periods are used in predicting the air temperature anomaly. The allowance for the thermal influence of

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individual regions in the determination of various prognostic relationships, as done in this article, does not mean that other regions and factors do not influence this phenomenon. The method represents only a simplification. The relationships determined are shown to be quite good, and are recommended for use in forecasting practice. The results are regarded as preliminary only. Further development along these lines can lead to derivation of similar relationships for all seasons and months of the year. Despite the tediousness of the method described, the derived empirical influence-function equations make it possible to prepare a seasonal forecast rapidly and easily. Examples of such a forecast are given. There is a full review of the literature which is pertinent to the background of the problem. Orig. art. has: 1 formula, 9 figures and 9 tables.

ASSOCIATION: Tsentral'nyy institut prognozov, Moscow (Central Institute of Forecasts)

SUBMITTED: 00

SUB CODE: ES

DATE ACQ: 20May64

NO REF SOV: 019

ENCL: 00

OTHER: 005

Card

2/2

ACC NR: AT6028450

SOURCE CODE: UR/2546/66/000/153/0090/0095

AUTHOR: Babkin, A. V.

ORG: none

TITLE: Physico-statistical method of forecasting the air temperature anomaly for Western Siberia and Northern Kazakhstan during the fall months

SOURCE: Moscow. Tsentral'nyy Institut prognozov. Trudy, no. 153, 1966. Statisticheskiye metody dolgosrochnogo prognoza pogody (Statistical methods of long-range weather forecasting), 90-95

TOPIC TAGS: long range weather forecasting, statistic analysis, air temperature, *atmospheric temperature*

ABSTRACT: This article examines the possibility of using Ye. N. Blinova's hydrodynamic method (Gidrodinamicheskaya teoriya voln davleniya, temperaturnykh voln i tsentrov deistviya atmosfery. Dokl. AN SSSR, 39, No. 7, 1943) of forecasting the mean monthly air temperature anomaly for Western Siberia and Northern Kazakhstan during the fall months. The asynchronous relation between the degree of icing of the Kara Sea and the air temperature anomaly is additionally investigated for September. To solve this problem the forecasts of the mean monthly air temperature anomaly for the period from 1951 to 1958 were specially calculated on an electron computer and the available forecasts from 1959 to 1964 were also used. Using Blinova's formula for the field of the mean monthly air temperature anomaly the present author found that the most successful forecasts were obtained in August and October. In each of these

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ACC NR: AT6028450

months 9 out of the 14 forecasts were successful. Hence it is concluded that Blinova's hydrodynamic method can be used when compiling forecasts for the indicated regions during the fall months. The author points out that it is expedient to use the regression equations derived in this study for compiling forecasts for a local region and that to refine the forecast of the mean monthly air temperature in Western Siberia and Northern Kazakhstan in September, the state of icing of the Kara Sea in August can be used. Orig. art. has: 6 formulas, 2 tables, and 3 figures.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

| | |
|--|---|
| I. 04917-67 EWT(1) GW | SOURCE CODE: UR/2546/66/000/153/0003/0021 |
| ACC NR: AT6028443 | |
| AUTHOR: <u>Babkin, A. V.</u> | 14 B11 |
| ORG: none | |
| TITLE: Method of forecasting the air <u>temperature</u> anomaly during the fall months in Western Siberia and Northern Kazakhstan | |
| SOURCE: <u>Moscow. Tsentral'nyy institut prognozov. Trudy, no. 153, 1966.</u> Statisticheskiye metody dolgorochnogo prognoza pogody (Statistical methods of long-range weather forecasting), 3-21 | |
| TOPIC TAGS: air temperature, long range weather forecasting, ^{atmospheric} temperature distri- bution | |
| ABSTRACT: A method is described which permits compiling a forecast of the sign of the air temperature anomaly with a certain degree of reliability at selected points of Western Siberia and Northern Kazakhstan. The magnitude of the anomaly is determined as follows. For corresponding pairs of stations with high values of relationships with respect to ρ , which is the degree of the asynchronous relation between signs of the air temperature anomalies at stations of the Northern Hemisphere and in the investigated region, multiple regression equations were set up by means of which not only the sign but also the magnitude of the monthly temperature anomaly were determined. The regression equations have the form | |
| $\Delta T_i = a\Delta t_1 + b\Delta t_2, \quad (1)$ | |
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ACC NR: AT6028443

where a and b are empirical functions obtained by the least-square method, ΔT_1 is the expected monthly anomaly at the point of forecast, Δt_1 and Δt_2 are the air temperature anomalies for the preceding months at the corresponding two points in the Northern Hemisphere. For forecasting the air temperature anomaly in August with a zero length of time before the phenomenon occurs the July data are used and for a monthly length of time before the phenomenon occurs the data for June; the data for August are used for forecasting the air temperature anomaly in September with a zero length of time and the data for July are used for a monthly duration of time before the phenomenon occurs; and the forecast for the temperature anomaly in October is compiled from data of September and August. Equation (1) makes it possible to compile a monthly forecast of the sign and magnitude of the temperature anomaly for selected stations of Western Siberia and Northern Kazakhstan with a different length of time before the occurrence of the phenomenon. It was found that the formation of an air temperature anomaly during asynchronous periods is substantially affected by the thermal conditions of the entire Northern Hemisphere. Regions of active influence change their position from month to month. A statistical calculation of the effect of active centers in the Northern Hemisphere made it possible to work out a method of a probable forecast of temperature anomalies in Western Siberia and Northern Kazakhstan. Orig. art. has: 1 formula, 7 tables, and 4 figures.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 001

ms
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2/2

BABKIN, A.V.

Frog quality continues to be poor. Put' i put. khoz. 8
no.7:41 '64. (MIRA 17:10)

1. Starshiy dorozhnyy master Promyshlenskoy distantsei
Zapadno-Sibirskoy dorogi.

BABKIN, A.V., mladshiy nauchnyy sotrudnik; KUVYRKIN, N.M., starshiy
inzh.-meteorolog

Weather conditions during the trip of the motorship
"Kooperatsiya" to Antarctica. Inform. biul. Sov. antark.
eksp. no. 39:20-23 '63. (MIRA 16:6)

1. Sed'maya kontinental'naya antarkticheskaya ekspeditsiya.
(Meteorology, Maritime)

86677

15.8103

S/064/60/000/008/004/008
B020/B060

AUTHORS: Artem'yev, A. A., Strepikheyev, Yu. A., Babkin, B. M.,
Khaylov, V. S., Romanovskiy, V. I.

TITLE: A Commercial Process of Esterifying Terephthalic Acid

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 8, pp. 9-15

TEXT: The present paper offers the principal results obtained by the authors from their laboratory method for the noncatalytic esterification of terephthalic acid and relative checking in the pilot plant. Fig. 1 shows the dependence of the esterification rate on temperature, and Fig. 2 the dependence of the esterification degree on pressure at 250°C. Fig. 3 illustrates the dependence of the esterification degree on the terephthalic acid : methanol ratio at 250°C, and Fig. 4, the dependence of the solubility of terephthalic acid in methyl alcohol on the monomethyl terephthalate content at 20°C. The dependence of the esterification degree on the water content in the reaction mixture and on the duration of process at 250°C is illustrated in Fig. 5. Table 1 gives the composition of the products for different esterification degrees, while Fig. 6 graphically depicts

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A Commercial Process of Esterifying
Terephthalic Acid

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B020/B060

the dependence of the composition of products on the esterification degree. Fig. 7 shows the dependence of the composition of terephthalic acid esterification products on the duration of process at 250°C. Table 2 gives composition, amount, and yield of esterification products of terephthalic acid in the presence of monomethyl terephthalate for various processing times. Fig. 8 is a graph illustrating the dependence of esterification degree on temperature under the conditions of the continuous and periodic procedures. Because spiral-tube reaction apparatus are very voluminous, a multiple-thread double-tube apparatus was designed, built, and tested (Fig. 9). Based on data obtained in the laboratory, a pilot plant was projected and set up for the esterification of terephthalic acid (diagram of Fig. 10). The plant consists of three main elements: 1) for the preparation of the initial suspension, 2) for the esterification proper, and 3) for the purification of dimethyl terephthalate by recrystallization. There are 10 figures, 2 tables, and 18 references: 2 Soviet, 6 US, 3 German, 2 British, 1 Polish, 1 Chinese, 1 French, 1 Japanese, and 1 Danish.

Card 2/2

BABKIN, B.M.; VENDEL'SHTEYN, Ye.G.; GENKINA, Ye.V.

Production of starting monomer materials for heterochain
fibers. Khim.volok. no.5:3-12 '61. (MIRA 14:10)

1. Gosudarstvennyy institut azotnoy promyshlennosti.
(Textile fibers, Synthetic)

STREPIKHEYEV, Yu.A.; BABKIN, B.M.

Solubility of hydrogen chloride in chlorobenzene. Khim.prom.
no.1:38-39 Ja '63.

(Hydrochloric acid) (Benzene)

(MIRA 16:3)

Babkin, B. N. Approximate solution of ordinary differential equations of any order by a method of successive approximations based on a theorem of S. A. Cauchy on differential inequalities. Doklady Akad. Nauk SSSR (N.S.) 59, 419-422 (1948). (Russian)

Source: Mathematical Reviews.

The method consists in establishing an upper as well as a lower limit for the solution sought and the application of an iteration scheme similar to Picard's to narrow the "fork" between the two bounds. (1) Equations of the first order. Let $y' = f(x, y)$, in which f and f_x are continuous in D , containing the point $M(x_0, y_0)$. Introduce upper bounds $v(x)$ and the lower bounds $u(x)$ of the solution:

$$v(x) > v_1(x) > \dots > v_n(x) > \dots > y(x), \\ u(x) < u_1(x) < \dots < u_n(x) < \dots < y(x),$$

such that $v' - f(x, y) > 0$, $u' - f(x, y) < 0$ for the interval $x_0 < x < x_1$; let $v(x_0) = u(x_0) = y_0$. Moreover, let $f_x > 0$ in the region D limited by the curves $y = v(x)$, $y = u(x)$ and the lines $x = x_0$, $x = x_1$. The iteration is carried out by means of

$$v_n(x) = y_0 + \int_{x_0}^x f(t, v_{n-1}(t)) dt,$$

$$u_n(x) = y_0 + \int_{x_0}^x f(t, u_{n-1}(t)) dt;$$

it is proved that $\lim_{n \rightarrow \infty} |v_n(x) - u_n(x)| = 0$ for $x_0 < x < x_1$. (2) Equations of higher order. Let

$$y'' = f(x, y, y').$$

$f, f_x, f_{y'}, f_{y''}$ being continuous in D , containing the point $M(x_0, y_0)$. Moreover, $f_{y''} > 0$ in a finite interval (A, B) . Call $y(x_0) = y_0$, $y'(x_0) = y'_0$ and the solution of (*) $y = y(x)$. Introduce $y = v(x)$ and $y = u(x)$ which for $(x_0, x) \in D$ satisfy

$$v'' - f(x, v, v') > 0; \quad u'' - f(x, u, u') < 0.$$

Call $v(x_0) = u(x_0) = y_0$, $v'(x_0) = u'(x_0) = y'_0$, $(v'(x))_{\min} = y'_0$, $(u'(x))_{\max} = y'_0$; then $v(x) > y(x)$; $u(x) < y(x)$. Calling $v_{n-1}(t) = v_{n-1}(t)$, $u_{n-1}(t) = u_{n-1}(t)$, $v_{n-1}(t) > 0$, $u_{n-1}(t) < 0$, the iteration formulae

$$v_n(x) = v_{n-1}(x) + \int_{x_0}^x (x-t) v_{n-1}''(t) dt,$$

$$u_n(x) = u_{n-1}(x) + \int_{x_0}^x (x-t) u_{n-1}''(t) dt$$

$$v_n(x) = v_{n-1}(x) + \int_{x_0}^x (x-t) v_{n-1}''(t) dt,$$

$$u_n(x) = u_{n-1}(x) + \int_{x_0}^x (x-t) u_{n-1}''(t) dt$$

$$v_n(x) = v_{n-1}(x) + \int_{x_0}^x (x-t) v_{n-1}''(t) dt,$$

$$u_n(x) = u_{n-1}(x) + \int_{x_0}^x (x-t) u_{n-1}''(t) dt$$

lead to the correct solution. The method can be extended to $y^{(n)} = f(x, y, y', \dots, y^{(n-1)})$. M. Douglis.

Babkin, B. N.

Babkin, B. N. On a modification of S. A. Chaplygin's method for approximate integration. Doklady Akad. Nauk SSSR (N.S.) 67, 213-216 (1949). (Russian)

The author considers the first order differential equation $y' = f(x, y)$. The method of Chaplygin presupposes that f and $\partial f / \partial y$ are continuous inside a region V_1 while $\partial^2 f / \partial y^2$ does not change sign there. The author proceeds to show that if one modifies the method of Chaplygin suitably the condition imposed upon $\partial^2 f / \partial y^2$ becomes unnecessary. The initial condition to be satisfied is taken as $y(0) = y_0$. Suppose that two functions $z = z(x)$ and $t = t(x)$ have been found, both of them going through $A(x_0, y_0)$ and lying entirely in V_1 . Assume that $dz/dx - f(x, z) < 0$ and $dt/dx - f(x, t) > 0$; then, according to the theorem of Chaplygin, $z(x) < y(x) < t(x)$ for $x_0 < x \leq x_1$. Introducing $\alpha(x) = dz/dx - f(x, z)$ and $\beta(x) = dt/dx - f(x, t)$, as well as σ_1 and η_1 defined by

$$\frac{\partial \sigma_1}{\partial x} - m\sigma_1 - \beta(x) = 0; \quad \frac{\partial \eta_1}{\partial x} - m\eta_1 + \alpha(x) = 0$$

(where it is clear that $\sigma_1(x) > 0$ and $\eta_1(x) > 0$), the author proceeds to prove that:

$\sigma_1(x) < t(x) - y(x)$; $\eta_1(x) < y(x) - z(x)$, i.e., $y(x) < t(x) - \sigma_1(x)$ and $z(x) + \eta_1(x) < y(x)$. Taking $t(x) - \sigma_1(x) = t_1(x)$ and $z(x) + \eta_1(x) = z_1(x)$ a new set of approximations is obtained for the solution $y = y(x)$. The author shows that $dz_1/dx - f(x, z_1) < 0$; $dt_1/dx - f(x, t_1) > 0$. Similarly η_2 and σ_2 are introduced through

$$\frac{\partial \sigma_2}{\partial x} - m\sigma_2 - \beta_1(x) = 0$$

and

$$\frac{\partial \eta_2}{\partial x} - m\eta_2 + \alpha_1(x) = 0$$

and a set of approximations $\{t_n(x)\}$ and $\{z_n(x)\}$ obtained between which the true solution $y(x)$ is found to lie. The case $m = 0$ corresponds to Picard's method.

By solving the defining linear differential equations for $\sigma_1(x)$ and $\eta_1(x)$ it is shown that $\{\sigma_n(x)\}$ and $\{\eta_n(x)\}$ converge uniformly toward zero, from which fact there follows, in turn, the uniform convergence of $\{t_n(x)\}$ and $\{z_n(x)\}$.

The rapidity of convergence can be increased somewhat by making the coefficient in the equations above depend upon the value of the index n , thus:

$$\frac{\partial \sigma_n}{\partial x} - m_{n-1}\sigma_n - \beta_{n-1}(x) = 0; \quad \frac{\partial \eta_n}{\partial x} - m_{n-1}\eta_n + \alpha_{n-1}(x) = 0,$$

where m_{n-1} is chosen so as to make $m_{n-1} < \partial f / \partial y (m_{n-1} \geq m_{n-2})$ in the suitably defined region V_{n-1} (that is, bounded by the curves $t_{n-1} = t_{n-1}(x)$, $z_{n-1} = z_{n-1}(x)$ and the line $x = x_1$).

M. Daniloff (Cambridge, Mass).

0342 5110 0000

Source: Mathematical Reviews, 1950

Vol 11

No. 2

BABKIN, B. N.

Mathematical Review.
June 1954
Analysis

10-7-54
LL

- ① Babkin, B. N. On approximate solution by Čaplygin's method of ordinary differential equations of the first kind which are not solved for the derivative. Akad. Nauk SSSR. Prikl. Mat. Meh. 17, 634-638 (1953). (Russian)
Čaplygin's theory of differential inequalities was formulated for differential equations explicitly solved for the derivative. This article treats the implicit case where the differential equation is in the form $F(x, y, y') = 0$. Among the results obtained the following is typical: If two curves $y = u(x)$ and $y = v(x)$ issuing from the point (x_0, y_0) are such that $F(x, u, u') < 0$, $F(x, v, v') > 0$, and $\partial F / \partial y' > 0$ in the region considered, then $u(x) < y(x) < v(x)$, where y is the solution through (x_0, y_0) and $x_0 < x$. The result is used to establish a sequence $v_1(x), v_2(x), \dots, v_n(x), \dots$ converging to $y(x)$.
W. E. Milne (Corvallis, Ore.).

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BABKIN, B. N.

USSR/Mathematics - Boundary value problem

FD-661

Card 1/1 : Pub. 85 - 16/20

Author : Babkin, B. N. (Molotov)

Title : ~~USSR/Mathematics - Boundary value problem~~
Solving a boundary value problem for an ordinary second-order differential equation by the Chaplygin method

Periodical : Prikl. mat. i mekh., 18, 239-242, Mar/Apr 1954

Abstract : Applies the Chaplygin method for approximately integrating differential equations to a boundary value problem for the equation $y'' - f(x,y) = 0$. States that the possibility of the application of the Chaplygin method to the solution of boundary value problems has as yet been very little investigated.

Institution : --

Submitted : December 23, 1952

BABKIN, B. N.

USSR/Mathematics - Approximate Integration

FD-1409

Card 1/1 : Pub. 47 - 6/6

Author : Babkin, B. N.

Title : ~~Approximate integration of systems of ordinary differential equations of the first order by the method of S. A. Chaplygin~~
Approximate integration of systems of ordinary differential equations of the first order by the method of S. A. Chaplygin

Periodical : Izv. AN SSSR, Ser. mat., Vol 18, 477-484, Sep-Oct 1954

Abstract : In this article a method is given for the construction of upper and lower approximations for the solution of systems of ordinary differential equations of the first order. The method is based on a new variant of a theorem of S. A. Chaplygin on differential inequalities. The author gives the proof of one theorem, which he calls the fundamental theorem of his method. The article was presented by Academician I. M. Vinogradov.

Institution :

Submitted : June 8, 1951

AUTHOR: Babkin, B.N. (Perm')

SOV/39-46-4-2/6

TITLE: On the Theorem of S.A. Chaplygin on Differential ~~Inequalities~~
(K teoreme S.A.Chaplygina o differentsial'nykh neravenstvakh)

PERIODICAL: Matematicheskiiy sbornik, 1958, Vol 46, Nr 4, pp 389-398 (USSR)

ABSTRACT: Given the equation

$$(1) \quad L[y] = y^{(n)} + p_1(x)y^{(n-1)} + \dots + p_n(x)y = f(x)$$

with the initial conditions

$$(2) \quad y^{(k)}(x_0) = y_0^{(k)} \quad (k=0,1,\dots,n-1),$$

where the $p_i(x)$ are continuous on $[x_0, x_1]$.

Principal result: Let $t(x)$ be an arbitrary function of the class $C_n[x_0, x_1]$ and let it satisfy the conditions (2) as well as the differential ~~inequality~~

$$L[t] - f(x) < 0 \quad (L[t] - f(x) > 0).$$

If the function $v(x) \in C_n[x_0, x_1]$ satisfies the conditions (2) and the ~~inequality~~

Card 1/2

On the Theorem of S.A. Chaplygin on Differential
Inequalities

SOV/39-46-4-2/6

$$L[v] - f(x) > \sum_{k=2}^n (M_k + |M_k|)(v-t)^{(n-k)}$$

$$(L[v] - f(x) < \sum_{k=2}^n (M_k + |M_k|)(v-t)^{(n-k)}),$$

where $M_k = \max_{[x_0, x_1]} p_k(x)$, then $v(x)$ is a majorizing (minorizing)

function for the solution $y(x)$ of the problem (1)-(2):

$$v^{(k)}(x) > y^{(k)}(x) \quad (v^{(k)}(x) < y^{(k)}(x)), \quad k=0, 1, \dots, n-1$$

in every point $x \in (x_0, x_1]$.

A similar theorem relates to the differential inequalities connected with systems of differential equations. The author proves both theorems for the linear case, but they easily admit a generalization to the nonlinear case. There are 8 references, 7 of which are Soviet, and 1 American.

SUBMITTED: February 27, 1957

Card 2/2

BABKIN, Boris Petrovich

[Secretory mechanism of the digestive glands] Sekretorni
mekhanizm pishchevaritel'nykh zhelez. Leningrad, Medgiz,
1960. 776 p. (MIRA 13:11)
(DIGESTIVE ORGANS--SECRECTIONS)

BABKIN, G., inzhener-mayor

At a repair plant. Komm. Vooruzh. Sil 46 no.10:54-55 My '65.
(MIRA 18:6)

BABKIN, G.I.

Calculating the excitation energy of fission fragments.
Atom.energ. 16 no. 4:300-304 Ap '64. (MIRA 17:5)

ACCESSION NR: AP4029690

S/0089/64/016/004/0300/0304

AUTHOR: Babkin, G. I.

TITLE: Calculating the excitation energy of fission fragments

SOURCE: Atomnaya energiya, v. 16, no. 4, 1964, 300-304

TOPIC TAGS: secondary neutron, fission neutron, nuclear fragment, excitation energy, prompt neutron, kinetic energy, liquid drop, quadratic approximation, threshold fission, spontaneous fission, coulomb interaction

ABSTRACT: The additional fragment excitation energy in the divergence process is discussed in this report. The excitation energy of nuclear fragments must be known before the quantity of the secondary fission neutrons can be determined. The energy released by fission is divided between the kinetic energy of the divergent fragments and their excitation energy, and that means that almost all of the excitation energy of the fissioning nucleus is used for the excitation of the fragments. The neutron spectrum must be known before the average number of neutrons released in the fission process can be determined. The magnitude of the fragment interaction energy was

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ACCESSION NR: AP4029690

calculated by B.T. Geylickman (Atomnaya Energiya [atomic energy], 6, 298, 1959, p. 290) in a quadratic approximation by a_{2i} and a_{3i} (with $i = 1.2$ in the fragment surface equation), and the initial conditions for the variables a_{2i} , a_{3i} and a were found. It is usually assumed that fission neutrons are released by moving fragments, and this assumption is found to agree with the experiment. Another assumption is the isotropism of the neutron release in the center of the mass of fragments. The calculations of the spectrum and average kinetic energy of the neutrons, based on the assumption that the neutrons are released from the fragments in 10^{-10} to 10^{-14} sec. when the fragments have already reached their maximum speed, are cited by J. Terrel (Phys. Rev., 113, 527, 1959). The numerical calculations were made on the "Strela" electronic digital computer at the computation center of the SSSR Academy of Sciences. "I take this opportunity to express my gratitude to B.T. Geylickman for his formulation of the problem and interest in the project." Orig. art. has: 16 formulas and 4 tables.

ASSOCIATION: None

-- 2/32

Card

BABKIN, G. N.

The Mercury Cathode

Dokl. Akad. Nauk SSSR, 1964, 197, 10, 1974.
(Zhur. Polov. Prikl. 1964, 2, 1974.)

BABKIN, G.N., Cand Chem Sci -- (diss) ^{Use} "Application of
electrolysis with ^Umercury cathode in the analytic
chemistry of cobalt and manganese." Alma-Ata, 1958,
16 pp with graphs (Min of Higher Education USSR. Kazakh
State Univ im S.". Kirov) 200 copies (KL, 23-58, 102)

- 12 -

AUTHORS: Babkin, G.N., Kozlovskiy, M.T. 153-58-1-20/29

TITLE: Electrochemical Investigation of Cobalt-Zinc Amalgams
(Elektrokhimicheskoye issledovaniye kobal'to-tsinkovykh amal'gam)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 129-136 (USSR)

ABSTRACT: In order to solve the problem of the character of the interaction between cobalt and zinc in amalgam the authors carried out a number of investigations. First, reference is made to the works by Speranskiy, Tsyb and Kozlovskiy (Ref 2), Tsyb (Refs 3,4) and Speranskiy (Ref 5). In the course of the present paper the authors describe the (polarographical) investigations of cobalt-zinc amalgams carried out by them, in the course of which they found that the anode wave height of zinc is reduced in the case of an increased concentration of cobalt in the amalgam. Proportionally, the reduction of the zinc wave does not correspond to the cobalt content in the amalgam. The authors measured the reversible potentials, on which occasion the influence exercised by the concentration of cobalt upon the potential of the zinc amalgam was again determined. The authors assume the reduction of the zinc wave and the modifica-

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Electrochemical Investigation of Cobalt-Zinc Amalgam

153-58-1-20/29

tion of the amount of the potential depends upon the intermetallic cobalt-zinc compound which is subjected to partial dissociation. On the basis of the results obtained by measuring the wave-height of zinc for various relations between zinc and cobalt in the amalgam it was possible to determine the dissociation constant and the formula of the compound formed. The dissociation constant was also determined on the strength of potentiometric measurements and was of the same order as that mentioned. There are 5 figures, 3 tables, and 12 references, 12 of which are Soviet.

ASSOCIATION: Kazakhskiy universitet im. S.M.Kirova i institut khimicheskikh nauk AN Kaz.SSSR. Kafedra analiticheskoy khimii (Kazakh University imeni S.M.Kirov and Institute of Chemical Sciences AS Kazakhstan SSR, Chair of Analytical Chemistry)

SUBMITTED: October 5, 1957

Card 2/2

AUTHOR: Babkin, G. N. SOV/32-24-7-9/65

TITLE: On the Separation of Cobalt and Zinc by an Amalgamation Method
(O razdelenii kopal'ta i tsinka amal'gannym metodom)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 808 - 810
(USSR)

ABSTRACT: P. P. Tsyb in his paper (Ref 1) recommends an electrolytic separation of cobalt and zinc by the method of anodic oxidation. In this method the duration of electrolysis is prolonged at a potential which is equal to the decomposition potential of the cobalt amalgam, in order to achieve a better isolation of the zinc. As in this process there exists the danger of greater amounts of cobalt passing into solution, the present investigations were conducted. Not only the electrolyte but also the amalgam was examined. The polarization curves were plotted at 20° and 85°. It was established, contrary to the findings of Tsyb, that a separation of cobalt and zinc is impossible. Although special methods were employed the result was repeatedly the same. Even when the electrolysis lasted for from 13 to 18 minutes at the potential of cobalt oxidation

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SOV/32-24-7-9/65
On the Separation of Cobalt and Zinc by an Amalgamation Method

($\sim + 0,3$ V) more than half of the zinc remained in the amalgam. Attempts were made to filter the Zn-Co-amalgam through a glass filter (Nr 2). Cobalt, however, which could be filtered off in the absence of zinc, passed through the filter if it was present together with zinc as a double amalgam. The results of the determinations are given in a table. There are 2 figures, 2 tables, and 2 references, which are Soviet.

ASSOCIATION: Institut khimicheskikh nauk Akademii nauk KazSSR
(Institute of Chemical Sciences, AS Kazakh SSR)

Card 2/2

BABKIN, G.N.

Electrolysis of manganese salts with a mercury cathode. Izv.
vys. ucheb. zav.; khim. i khim. tekhn. 4 no. 2:253-257 '61.
(MIRA 14:5)

1. Kazakhskiy tekhnologicheskoy institut. Kafedra analiticheskoy
khimii.

(Manganese) (Electrolysis)

BABKIN, G.N.

Polarographic limiting current for zinc amalgams. Izv.vys.ucheb.
zav.;khim. i khim.tekh. 6 no.2:223-227 '63. (MIRA 16:9)

1. Kazakhskiy tekhnologicheskoy institut, kafedra analiticheskoy
khimii.

(Amalgams--Electric properties)

BABKIN, G.N.

Anomalous curves of cobalt polarograms with thiocyanides as the support. Izv.vys.ucheb.zav.;khim. i khim.tekh. 7 no. 1:90-94 '64. (MIRA 17:5)

1. Kazakhskiy tekhnologicheskoy institut, kafedra analiticheskoy khimii.

BABKIN, G.N.; SAMBETOV, Sh.S.

Mechanism of the formation of dispersed cobalt deposits on a mercury cathode with alkaline earth chlorides as the support.
Izv.vys.ucheb.zav.; khim. i khim. tekhn. 7 no. 1:95-100 '64.
(MIRA 17:5)

1. Kazakhskiy tekhnologicheskoy institut, kafedra analiticheskoy khimii.

BAEKIN, G.N.; KAZACHISHCHEVA, M.S.; GAYSINA, M. Kh. [deceased] (Chemkent)

The nature of the polarographic maxima of cobalt with nitrate
as the support. Zhur. fiz. khim. 39 no. 1:147-150 Ja '65
(MIRA 19:1)

1. Kazakhskiy tekhnologicheskii institut. Submitted June 1,
1963.

L 21796-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 AEDC(a)/IJP(c) JD/
 JJW/JG S/0076/64/038/012/3005/3007
 ACCESSION NR: AP5002584

AUTHOR: Potapov, A. V.; Babkin, G. V.

TITLE: Temperature-entropy diagram for lithium vapors in the 1000—
 10,000 K and $1-10^6$ bar ranges 27

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 12, 1964, 3005-3007

TOPIC TAGS: lithium vapor, thermodynamic data, temperature entropy diagram

ABSTRACT: Temperature-specific entropy (T,s) diagrams were made for lithium vapors in the 1000—10,000 K and $1-10^6$ bar ranges. Besides the usual T,s diagrams at 1) constant pressure and at 2) constant density, T,s diagrams were shown at: 3) constant specific enthalpy; 4) constant molar concentration of electrons; 5) constant sonic velocity; and 6) constant $\gamma=C_p/C_v$ ratio. Thermodynamic data for these diagrams were calculated by the methods of statistical mechanics, taking into account the dissociation of Li_2 molecule and ionization of Li atoms. Orig. art. has: 2 figures.

ASSOCIATION: none

Card 1 / 2

L 21796-65

ACCESSION NR: AP5002584

SUBMITTED: 16Nov63

NO REF SOV: 002

ENCL: 00

OTHER: 003

SUB CODE: TD

ATD PRESS: 3166

Card 2/2

BABKIN, I.Kh. (Moskva)

Pulmonary roentgenological manifestations of cardiac congestion.
Klin.med. 39 no.4:35-41 '61. (MIRA 14:4)

1. Iz gospi'tal'noy khirurgicheskoy kliniki (zav. - deystvitel'nyy
chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo rodena Lenina
meditsinskogo instituta imeni I.M. Sechenova.
(HEART FAILURE) (LUNGS--RADIOGRAPHY)

~~5(4)~~ 5. 1115

66489

AUTHORS:

Babkin, I. Yu., Vasil'yeva, V. S., SOV/20-129-1-36/64
Drogaleva, I. V., Kiselev, A. V., Korolev, A. Ya.,
Shcherbakova, K. D.

TITLE:

The Effect of the Degree of Surface Modification of Silica by
Trimethylchlorosilane on Its Absorptive Properties

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 131-134
(USSR)

ABSTRACT:

In previous papers (Refs 1, 2) the authors showed that the physico-chemical surface properties of highly dispersed materials, such as carbon black or silica, can be influenced to a considerable degree by chemical reactions. The present paper reports on experiments carried out under the cooperation of L. I. Doroshina, M. G. Kuz'mina, G. M. Lyulina, and L. F. Pavlova, with the aim of reducing the adsorbing capacity of highly dispersed non-porous silica (aerosil) for hydrocarbons. To attain this, the aerosil surface was occupied with $\text{Si}(\text{CH}_3)_3$ -groups. Since complete occupation is only possible on previously hydratized silica, the following samples were investigated: (1) the original aerosil -

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The Effect of the Degree of Surface Modification of Silica by Trimethylchlorosilane on Its Absorptive Properties SOV/20-129-1-36/64

sample A1, (2) original aerosil, modified by treatment with trimethylchlorosilane - sample A1M, (3) aerosil hydratized in an autoclave - sample A1H, and (4) aerosil, hydratized in an autoclave, and then modified by treatment with trimethylchlorosilane - sample A1HM. The amount of trimethylsilyl-groups adhering to the silica surface was determined by means of microelementary analysis. The degree $\theta_{\text{Si}(\text{CH}_3)_3}$

to which the surface area is occupied is calculated from the size of the trimethylsilyl-groups (42 \AA^2). The specific surface, its carbon content, and the degree to which it is occupied by trimethylsilyl-groups are shown in table 1. The effect of these groups lies in the fact that the interspaces between the groups, even when the surface is not occupied completely, but only in the manner of a mosaic - become so small that the larger hydrocarbon molecules are not able to penetrate to the surface. The adsorption isotherms for vapors of n-hexane, benzene, and methanol are given in figure 1, those for water in figure 2. The adsorption of hydrocarbons is decreased less than that of water on a 58% modified

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The Effect of the Degree of Surface Modification of Silica by Trimethylchlorosilane on Its Absorptive Properties SCV/20-129-1-36/64

surface. 93% Modification produces a sharp decrease in the adsorbing capacity of the surface. The isotherm for heavy hydrocarbons becomes practically linear. This phenomenon may be of value for the chromatographic separation of hydrocarbon mixtures by means of gas adsorption. There are 2 figures, 1 table, and 11 references, 9 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov). Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov (All-Union Scientific Research Institute for Aviation Materials)

PRESENTED: June 13, 1959, by M. M. Dubinin, Academician

SUBMITTED: June 11, 1959

Card 3/3

S/020/61/136/002/025/034
B004/B056

AUTHORS: Babkin, I.Yu., Kiselev, A.V., and Korolev, A.Ya.

TITLE: Adsorption Heats and Entropies of Hexane and Benzene
Vapors on an Aerosils With a Surface Modified by
Trimethylsilyl Groups

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol.136, No.2, pp.373 - 376

TEXT: The authors studied the adsorption of hydrocarbon vapors on the surface of aerosils, which had been treated with trimethylchlorosilane. A theoretical calculation of the adsorption energy of n-hexane and benzene molecules (Ref. 3) resulted, with increasing modification of the silicon dioxide, in a drop of the adsorption energy below the value of condensation heat. It was assumed that in the case of sufficiently modified aerosil, the adsorption heat of these hydrocarbons must become negative. It was the purpose of the present work to check this assumption. In order to give the aerosil surface greater homogeneity and reactivity with respect to trimethylchlorosilane, a hydrothermal treatment in an autoclave was carried

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Adsorption Heats and Entropies of Hexane and
Benzene Vapors on an Aerosils With a Sur-
face Modified by Trimethylsilyl Groups

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B004/B056

out at 120 - 265°C for 8 - 19.5 hours. Specimens of aerosils were obtained, whose surface was occupied by Si (CH₃)₃ groups degree of occupation: 0, 60, 85, 90, or 100%. For these specimens, Fig. 1 shows the calorimetric differential adsorption heat Q_a (kcal/mole) as a function of adsorption

α (μ -mole/m²), and Fig. 2 shows the isothermal lines for α as a function of the relative vapor pressure p/p_s . The dropping of Q_a below the condensation heat L was observed, and for the completely (100%) modified specimen, the true adsorption heat was found to be: $Q_a - L = -0.5$ with n-hexane; $Q_a - L = 1.0$ with benzene.

Accordingly, adsorption α decreases considerably with a constantly rising modification (Fig. 2). In the case of large p/p_s , the surface is occupied with hydrocarbon molecules to such a small content that capillary condensation may occur in between. The adsorption heats measured thus include the heat of capillary condensation, and the true adsorption heats must be still lower. From the adsorption isothermal lines and the adsorption heats, the differential adsorption entropies for n-hexane and benzene

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Adsorption Heats and Entropies of Hexane
and Benzene Vapors on an Aerosils With
a Surface Modified by Trimethylsilyl Groups

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were calculated. With growing modification, a transition from negative to positive values took place. With $\Delta = 1 \mu\text{-mole/m}^2$, $\partial \Delta S / \partial \Delta$ on aerosil with 0% modification amounted to about -2.5 cal/deg.mole for benzene, and about -0.5 for n-hexane, while the following values were obtained for 100% modified aerosol: benzene, about +2 cal/deg.mole; n-hexane, about +1 cal/deg.mole. This indicated a higher mobility of the adsorbed hydrocarbon molecules on the modified surface. With 100% modification, a non-localized adsorption is assumed. For the initial part of the adsorption isothermal line, which is not yet distorted by capillary condensation, T.H.Hill's equation (Ref. 7) therefore holds. A combination of the geometric modification (hydrothermal treatment in an autoclave) with chemical modification (reaction with trimethylchlorosilane) thus smoothened the surface of silicon dioxide and led to the formation of a homogeneous layer of trimethylsilyl groups, on which the adsorption of $n\text{-C}_6\text{H}_{12}$ and C_6H_6 is not localized and the adsorption heat becomes negative. The authors thank I.V.Drogaleva and V.P.Marinkova for their assistance. There are 4 figures, 1 table, and 10 references, 7 of which are Soviet, 2 US, and 1 German.

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Adsorption Heats and Entropies of Hexane
and Benzene Vapors on an Aerosils With
a Surface Modified by Trimethylsilyl Groups

\$020/61/136/002/025/034
B004/B056

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

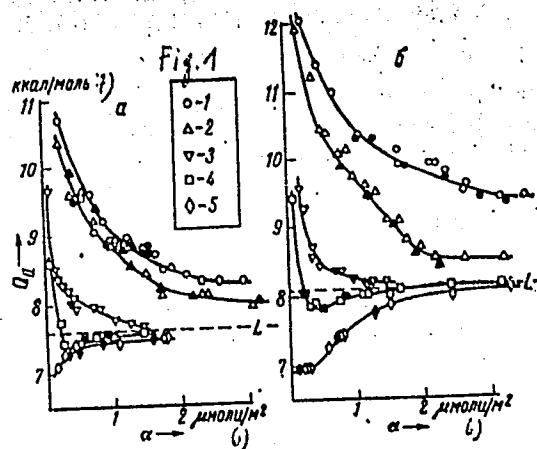
PRESENTED: July 2, 1960 by M.M.Dubinin, Academician

SUBMITTED: June 30, 1960

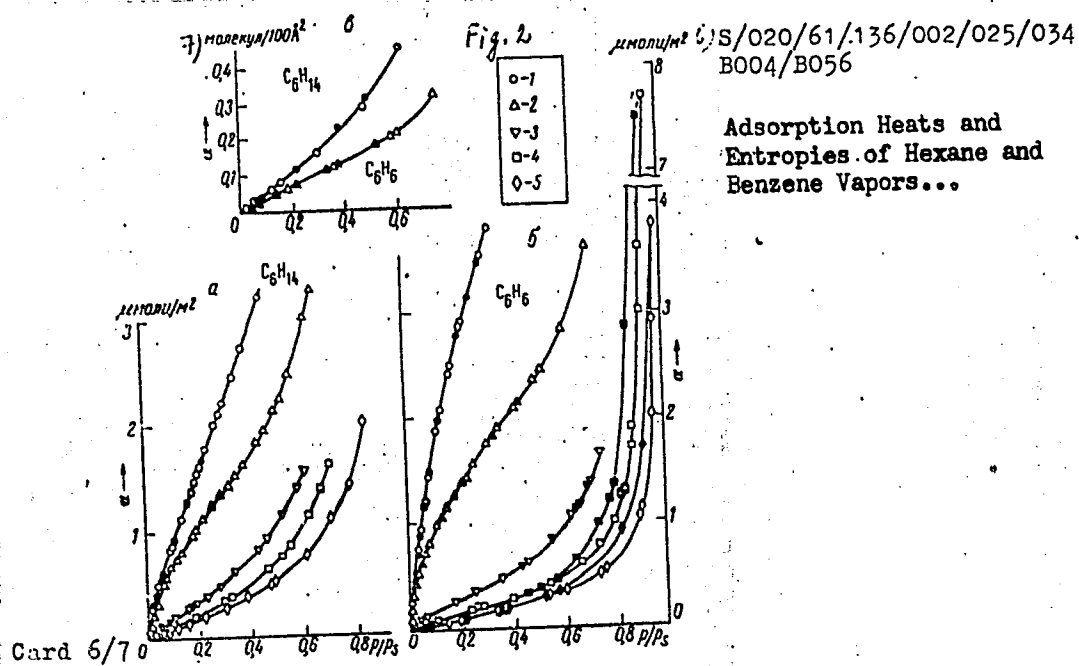
Card 4/7

Adsorption Heats and Entropies of Hexane
and Benzene Vapors on an Aerosils With
a Surface Modified by Trimethylsilyl Groups

S/020/61/136/002/025/034
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Adsorption Heats and Entropies of Hexane
and Benzene Vapors on an Aerosils With
a Surface Modified by Trimethylsilyl Groups

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Legend to Fig. 1: a) n-hexane; δ) benzene; 1) initial aerosol; 2) 60%;
3) 85%; 4) 90%; 5) 100% modified aerosol; 6) μ -mole/m²; 7) kcal/mole.

Legend to Fig. 2: a) n-hexane; δ) benzene; 1) initial aerosol; 2) 60%;
3) 85%; 4) 90%; 5) 100% modified aerosol; θ) initial section for sample
5) on enlarged scale; 6) μ -mole/m²; 7) molecules/100 A.

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